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Mathematical Sciences Programme

David Harman – Head of Programme

Katharine Bowes – Pure Mathematics

Mark Bambury – Applied Mathematics

Janet Edwards – Statistics/Operational Research and Mathematical Physics

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EPSRC GOALS 2008-11

- Increase focus on the key challenges for society
- Encourage even more ambitious and transformative research in a healthy research base
- Attract and nurture talented and skilled people
- Work with all partners to more effectively translate/understand how research can contribute to solving the challenges facing society
- Realign our own internal organisation to deliver our goals most effectively

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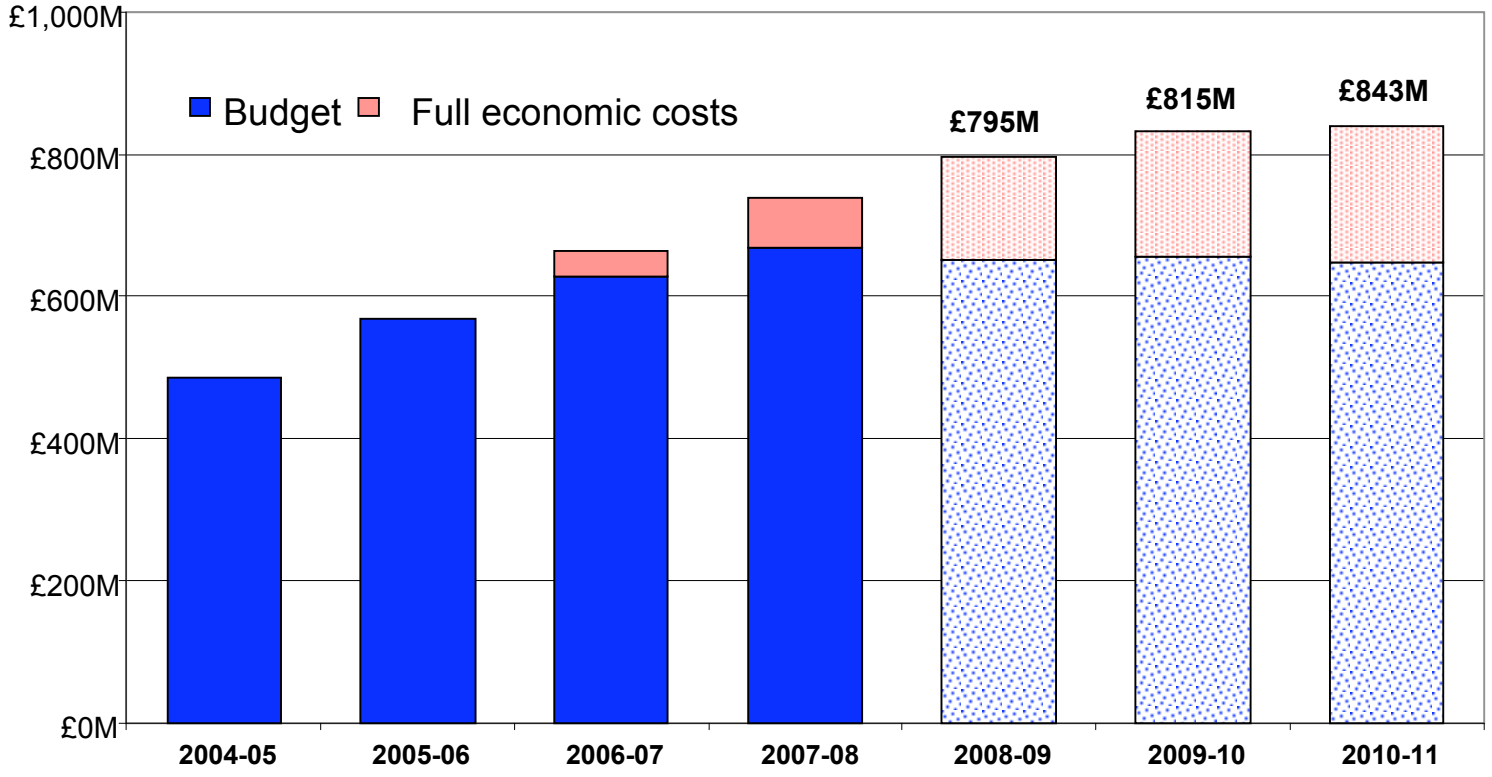
EPSRC 2004-05 to 2010-11 EXPENDITURE



- **Plans include:**
- Our priority themes
- ETI
- Target for TSB collaboration
- RCUK priority themes

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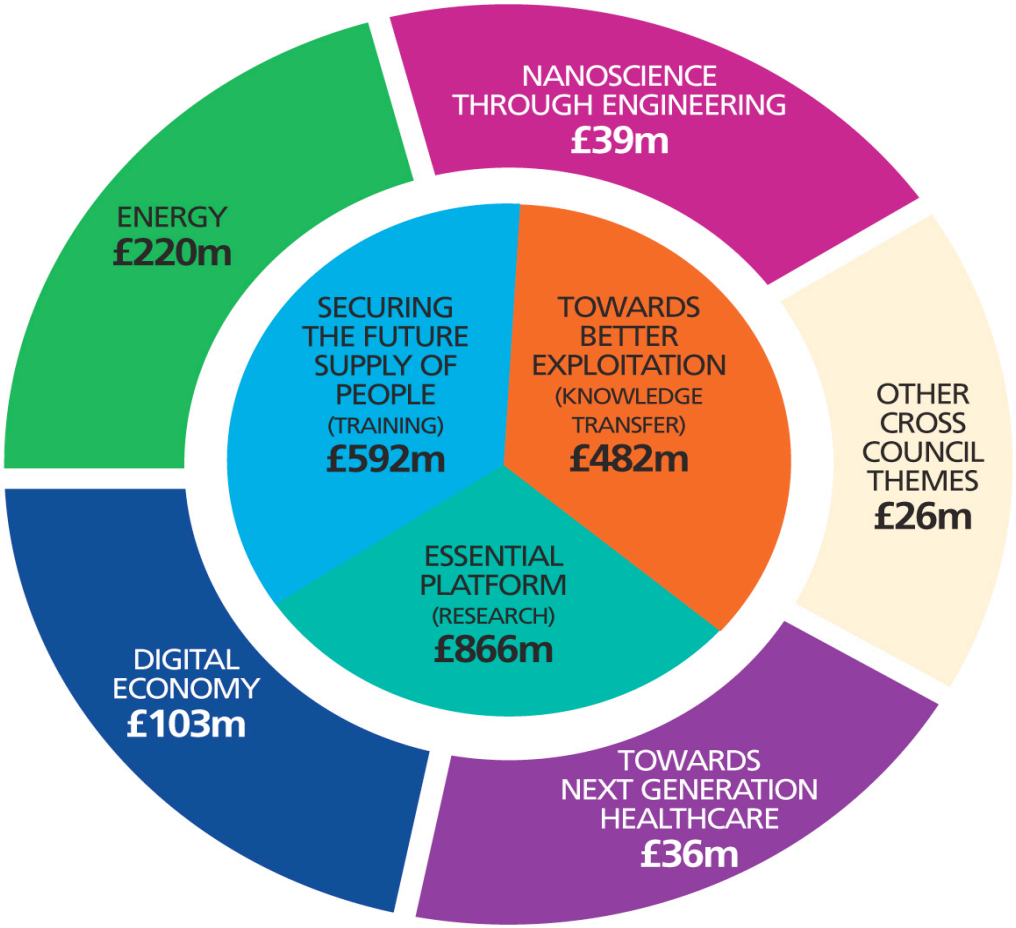

THE WHOLE EPSRC PICTURE

Living with environmental change (£9M)
Global threats to security (£6M)
Ageing: life-long health and wellbeing (£11M)

Values are commitment 2008-11

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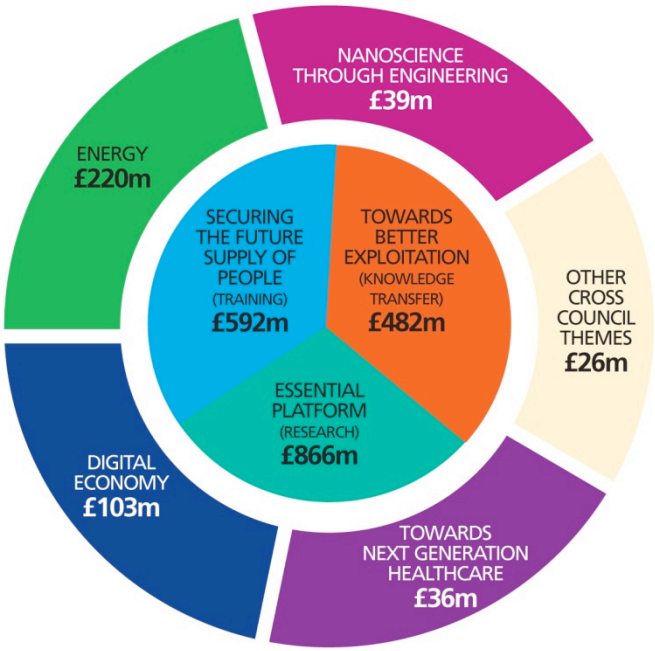
BUSINESS INNOVATION

- Energy
- Digital Economy
- Nanoscience through Engineering to Application
- Towards Next Generation Healthcare
- User led Knowledge and Skills
- User led Research

THE NEW EPSRC ORGANISATIONAL STRUCTURE



RESEARCH BASE

- Mathematical Sciences
- Process, Environment & Sustainability
- Materials, Mechanical & Medical Engineering
- Cross-Disciplinary Interfaces
- Public Engagement
- Physical Sciences
- Research Infrastructure & International
- Information & Communications Technology

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CONCLUSIONS

- The major feature of our plans is the identification of key priority themes addressing important societal challenges
- All research disciplines have an important role to play in these themes
- The largest proportion of our budget is spent on investigator-led research and training
- We want to encourage researchers to be even more ambitious
- Need for us all to demonstrate the wider impact of science and engineering research on society and the economy

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MATHEMATICAL SCIENCES PROGRAMME 2008/09

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COMMITMENT BUDGET 2008/09

Research £16M

Training £16M

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PRIORITIES

- Engagement with focused research themes
- Supporting young researchers and next generation of research leaders
- High quality fundamental research
- Pump-priming new research topics or areas in need of rejuvenation

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ENGAGEMENT WITH FOCUSED RESEARCH THEMES

- Workshops between mathematicians and practitioners
- Discipline-hopping awards
- Bridging the gaps initiative

A dialogue with the community will be helpful in deciding how to take this forward

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SUPPORTING YOUNG RESEARCHERS AND NEXT GENERATION OF RESEARCH LEADERS

- Doctoral training programme
- First Grants
- Postdoctoral Fellowships
- Career Acceleration and Leadership Fellowships
- Workshops for new academics

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HIGH QUALITY FUNDAMENTAL RESEARCH

- Responsive mode
- Encouraging more flexibility and adventure
- Programme grants
- Platform grants
- Signposting strategic areas

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PUMP-PRIMING NEW RESEARCH TOPICS OR AREAS IN NEED OF REJUVENATION

- Numerical analysis and high performance computing (S&I topic)
- New maths for biology
- Quantitative risk in the Insurance industry
- CRUK Imaging initiative

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SUMMARY OF ACTIONS FROM IRM

- 7 Science & Innovation Awards
- 6 Taught course centres
- LMS/RSS specialist short courses
- Statistics Mobility Fellowships
- Discipline Hopping Awards
- Bridging the Gaps
- Multidisciplinary critical mass centres

Total Investment – From council (S&I) = £25M; From Maths Programme = £6M

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SOME FACTS AND FIGURES…

- Current grant portfolio: 430 grants for £103M, including
- 7 senior fellowships, 39 advanced fellowships and 30 postdoctoral fellowships
- 5 Critical Mass centres (about £1M each pre-fEC)
- 3 ‘Programme’ grants (about £1.7M each)
- Renewed investment last year in INI and ICMS;
- Support for symposium activities at Warwick and Durham;

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SOME FACTS AND FIGURES..cont'd

- Funding for a range of networks; incoming and outgoing visitor programmes;
- Representation Theory network twinned with French community – scope for twinned networks in other areas;
- Also 7 S&I awards in Mathematical Sciences, total investment ~£25M;
- Funding for ~200 doctoral students a year through DTA and CASE allocations
- 6 Taught course centres

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THE FUTURE…

- The Programme is in good shape;
- There are opportunities ahead to contribute to achieving the EPSRC Delivery Plan;
- EPSRC will actively encourage mathematicians to engage with the focused research themes;
- By so doing the wider value of mathematics to society will be more easily demonstrated;
- Core funding through responsive mode will be maintained.

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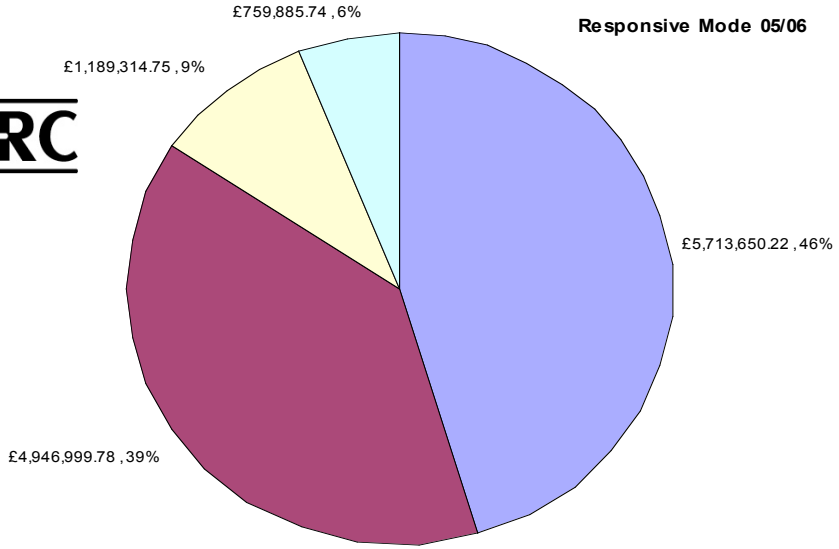
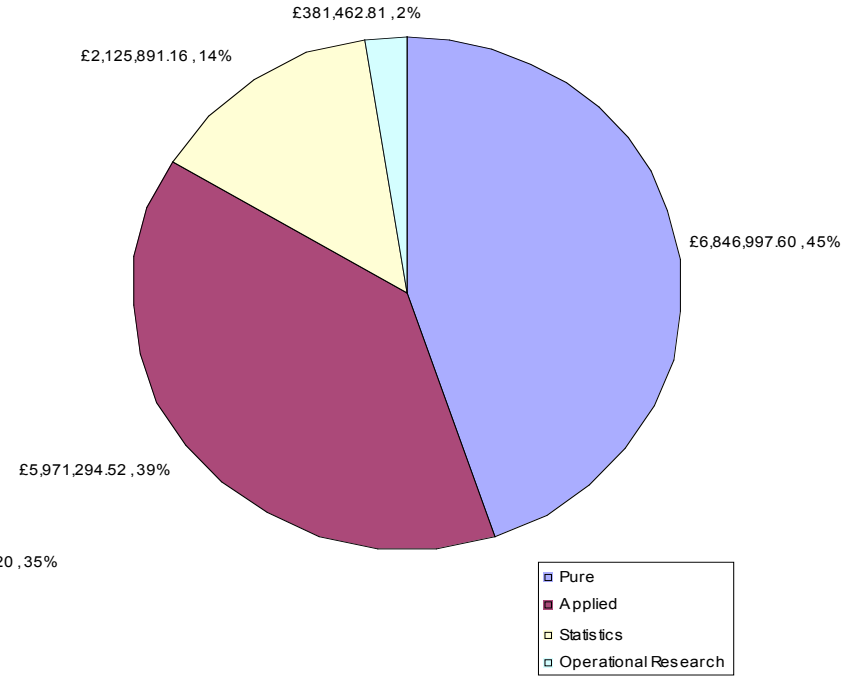
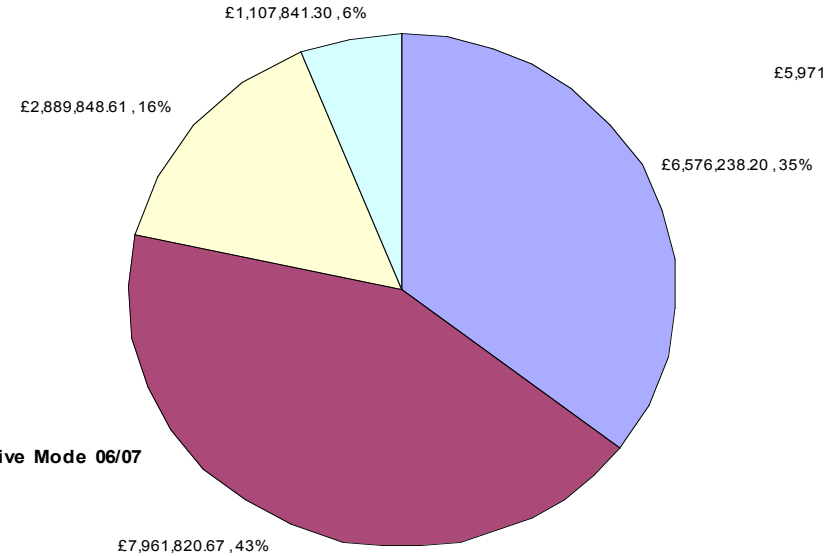
Responsive Mode 05/06



Responsive Mode 07/08



Responsive Mode 06/07



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FIRST GRANTS IN STATISTCIS

YEAR	% FUNDED BY NUMBER
2005/06	
2 Funded 3 Rejected 3 Unfunded	25
2006/07	
1 Funded 2 Rejected 9 Unfunded	8
2007/08	
3 Rejected 2 Unfunded	0